

Notice of Allowability

Application No.

09/741,636

Examiner

Guy J. Lamarre

Applicant(s)

MITLIN ET AL.

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/6/06.
2. ☒ The allowed claim(s) is/are 1-65.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Guy J. Lamarre, P.E.
Primary Examiner

DETAILED ACTION .

Response to Amendment

- * This office action is in response to Applicants' **Amendment** of 3/6/06.
- * **Claims 1-65** are pending.

Response to Arguments

1. Applicants' arguments of 3/6/06 along with the entire disclosure have been fully considered and are found persuasive. As a result, **Claims 1-65** are allowed.

Allowable Subject Matter

2. **Claims 1-65** are allowable over the prior art. The following is an examiner's statement of reasons for allowance:

2.1 Claims 1-7, 18-20, 24-39, 51-53, 57-65 are allowed in view of the terminal disclaimers previously filed by Applicant.

2.1.1 Claims 8-17, 21-23, 40-50 and 54-56 are allowable.

The prior art of record is exemplified by **Alamouti et al.** (USPGPUB# 2005/0002440) and **KRONGOLD et al.** (US Patent No. 6400773).

Alamouti et al. discloses channel and forward error correction parameter selection based on signal to noise ratio.

KRONGOLD et al. discloses allocation of quantities affecting performance for multicarrier communication systems, e.g., in col. 12 line 11 et seq., wherein *'In addition to bit error probability, i.e., the probability of a single bit being in error, another criteria could be symbol error probability, which is the probability that a symbol on a subchannel is in error. Each subchannel symbol represents a certain number of bits defined by the rate assigned to that*

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channel. A symbol in one subchannel can represent a different number of bits than a symbol in another subchannel. However, in some situations, this criteria is more useful than bit error probability as symbols are fed into a Reed-Solomon coder, where the symbol error probability becomes a better measure of data reliability. The present invention will work for either symbol or bit error probability, or some combination of both if so desired. These criteria simply affect how the operating points are located on the rate-power (Rate-SNR) graph, and as stated earlier, an important aspect of the present invention is that it can solve for the optimal allocation for a convex, discrete set of points on the rate-power (rate-SNR) graph. Convexity of subchannel rate-power (rate-SNR) curves is needed to guarantee that the optimal solution is always achieved. This is the usual case though. Convexity, as used herein, also applies to the cases where the negative of a concave function is convex.'

However, these references do not teach or suggest alone or in combination *the subchannel limitation as claimed* in Claims 8-17,21-23,40-50 and 54-56.

2.2 Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

* Any response to this action should be mailed to:

Commissioner of Patents and Trademarks, Washington, D.C. 20231

or faxed to: (571) 273-8300 for all formal communications.

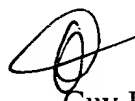
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy J. Lamarre, P.E., whose telephone number is (571) 272-3826. The examiner can normally be reached on Monday to Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert De Cady, can be reached at (571) 272-3819.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3609.

Information regarding the status of an application may also be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Guy J. Lamarre, P.E
Primary Examiner
